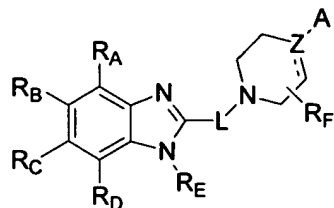


What is claimed is:

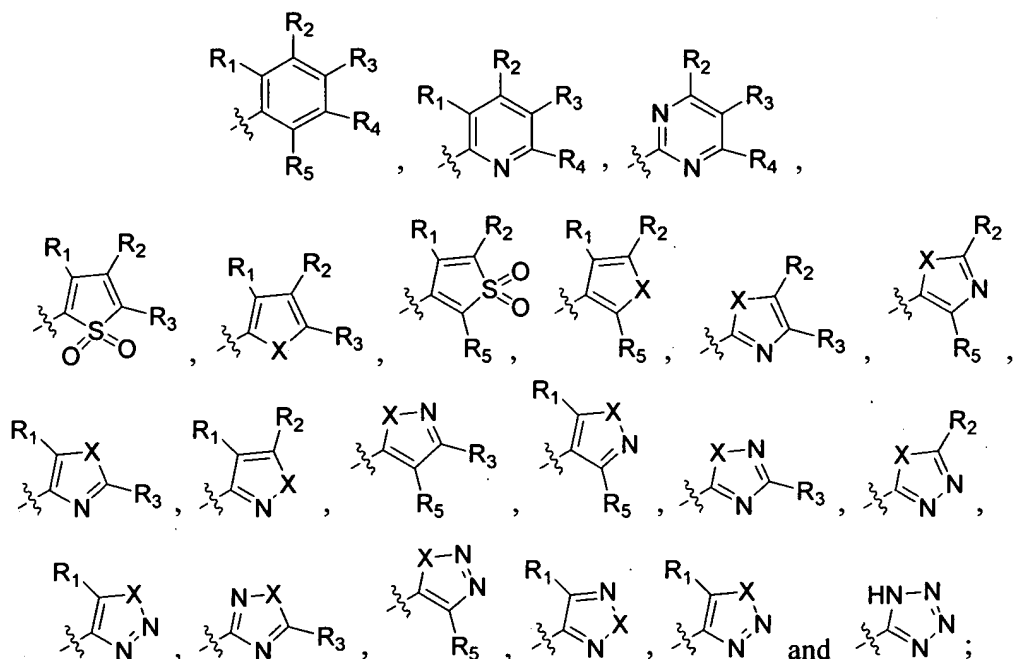
1. A method of treating sexual dysfunction in a mammal comprising administering to said mammal in need of such treatment a therapeutically effective amount of a compound of formula (I)



(I)

a pharmaceutically acceptable salt, ester, amide, or prodrug thereof, wherein

A is a selected from the group consisting of



10 X is selected from the group consisting of NH, O and S;

L is selected from the group consisting of  $\text{CH}_2$ ,  $\text{CH}_2\text{CH}_2$ ,  $\text{CH}_2\text{CH}_2\text{CH}_2$  and  $\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2$ ;

$\text{R}_1$ ,  $\text{R}_2$ ,  $\text{R}_3$ ,  $\text{R}_4$  and  $\text{R}_5$  are each independently selected from the group consisting of hydrogen, alkoxy, alkenyl, alkyl, alkylsulfinyl, alkylsulfonyl, alkylthio, alkynyl, alkoxy carbonyl, alkyl carbonyl, alkyl carbonyloxy, carboxy, cyano, formyl, halogen, haloalkoxy, haloalkyl, hydroxy, hydroxyalkyl, mercapto, nitro,  $-\text{NZ}_1\text{Z}_2$ ,  $(\text{NZ}_1\text{Z}_2)\text{carbonyl}$  and

(NZ<sub>1</sub>Z<sub>2</sub>)sulfonyl wherein Z<sub>1</sub> and Z<sub>2</sub> are each independently selected from the group consisting of hydrogen, alkyl, alkylcarbonyl, alkylsulfonyl and formyl;

R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of hydrogen, alkoxy, alkenyl, alkyl, alkylsulfinyl, alkylsulfonyl, alkylthio, alkynyl,  
5 alkoxycarbonyl, alkylcarbonyl, alkylcarbonyloxy, carboxy, cyano, formyl, halogen, haloalkoxy, haloalkyl, hydroxy, hydroxyalkyl, mercapto, nitro, -NZ<sub>1</sub>Z<sub>2</sub> and (NZ<sub>1</sub>Z<sub>2</sub>)carbonyl;

R<sub>E</sub> is selected from the group consisting of hydrogen, alkoxycarbonyl, alkyl, alkylcarbonyl, arylcarbonyl, cycloalkylcarbonyl, heterocyclecarbonyl and (NZ<sub>1</sub>Z<sub>2</sub>)carbonyl;

R<sub>F</sub> is selected from the group consisting of hydrogen and alkyl;

10 Z is selected from the group consisting of N, C and CH; and  
--- is a bond when Z is C and --- is absent when Z is N or CH.

2. The method according to claim 1 wherein

15 R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of hydrogen and halogen;

R<sub>E</sub> is hydrogen;

Z is N; and

--- is absent.

20 3. The method according to claim 1 wherein

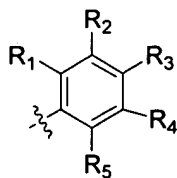
R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of hydrogen and halogen;

R<sub>E</sub> is hydrogen;

Z is N;

25 --- is absent; and

A is



4. The method according to claim 1 wherein

30 L is CH<sub>2</sub>;

R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of hydrogen and halogen;

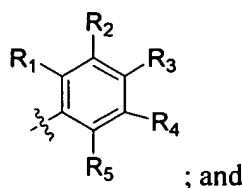
R<sub>E</sub> is hydrogen;

R<sub>F</sub> is hydrogen;

5 Z is N;

--- is absent;

A is



R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> are each hydrogen.

10

5. The method according to claim 4 wherein said compound of formula (I) is selected from the group consisting of

2-[(4-phenyl)piperazin-1-yl)methyl]-1H-benzimidazole;

2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]benzonitrile;

15 2-{[4-(2-chlorophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;

2-{[4-(2-fluorophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;

2-{[4-(2-nitrophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;

2-{[4-(2-methoxyphenyl)piperazin-1-yl]methyl}-1H-benzimidazole;

2-({4-[2-(methylthio)phenyl]piperazin-1-yl}methyl)-1H-benzimidazole;

20 2-{[4-(2-ethoxyphenyl)piperazin-1-yl]methyl}-1H-benzimidazole; and

2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol.

6. The method according to claim 1 wherein

L is CH<sub>2</sub>;

25 R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of hydrogen and halogen;

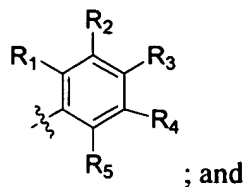
R<sub>E</sub> is hydrogen;

R<sub>F</sub> is hydrogen;

Z is N;

30 --- is absent;

A is



R<sub>1</sub>, R<sub>2</sub>, R<sub>4</sub> and R<sub>5</sub> are each hydrogen.

- 5     7.     The method according to claim 6 wherein said compound of formula (I) is 4-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol.

8.     The method according to claim 1 wherein

R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of

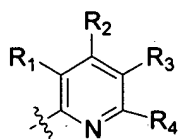
10    hydrogen and halogen;

R<sub>E</sub> is hydrogen;

Z is N;

--- is absent; and

A is



9.     The method according to claim 1 wherein

L is CH<sub>2</sub>;

R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of

20    hydrogen and halogen;

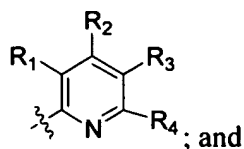
R<sub>E</sub> is hydrogen;

R<sub>F</sub> is hydrogen;

Z is N;

--- is absent;

25    A is



R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> are each hydrogen.

10. The method according to claim 9 wherein said compound of formula (I) is selected  
5 from the group consisting of

2-{{[4-(3-methylpyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole;  
2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]nicotinonitrile;  
5,7-dibromo-2-{{[4-(pyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole;  
5-fluoro-2-{{[4-(pyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole;  
10 2-{{[4-(6-methylpyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole;  
N-{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-  
yl}methanesulfonamide; and  
2-{{[4-(3-fluoropyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole.

- 15 11. The method according to claim 9 wherein said compound of formula (I) is 2-{{[4-(pyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole.

12. The method according to claim 1 wherein

L is CH<sub>2</sub>;

- 20 R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of  
hydrogen and halogen;

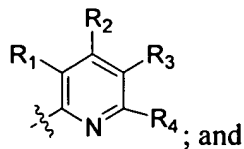
R<sub>E</sub> is hydrogen;

R<sub>F</sub> is alkyl;

Z is N;

- 25 --- is absent;

A is



R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> are each hydrogen.

13. The method according to claim 12 wherein said compound of formula (I) is selected from the group consisting of

- 2-[(2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;  
5 2-{[(2S)-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl}-1H-benzimidazole; and  
2-{[(2R)-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl}-1H-benzimidazole.

14. The method according to claim 1 wherein

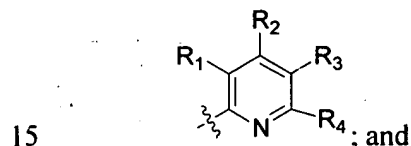
$R_A$ ,  $R_B$ ,  $R_C$  and  $R_D$  are each independently selected from the group consisting of  
10 hydrogen and halogen;

$R_E$  is hydrogen;

Z is N;

--- is absent;

A is



$R_1$ ,  $R_2$ ,  $R_3$  and  $R_4$  are each independently selected from the group consisting of  
hydrogen and hydroxy.

15. The method according to claim 1 wherein

20  $R_A$ ,  $R_B$ ,  $R_C$  and  $R_D$  are each independently selected from the group consisting of  
hydrogen and halogen;

$R_E$  is hydrogen;

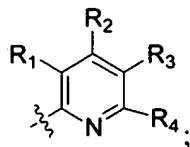
$R_F$  is hydrogen;

L is  $CH_2$ ;

25 Z is N;

--- is absent;

A is

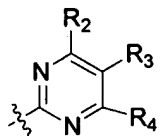


R<sub>1</sub>, R<sub>2</sub> and R<sub>4</sub> are each hydrogen; and  
R<sub>3</sub> is hydroxy.

16. The method according to claim 15 wherein said compound of formula (I) is 6-[4-(1H-  
5 benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol.

17. The method according to claim 1 wherein  
R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of  
hydrogen and halogen;

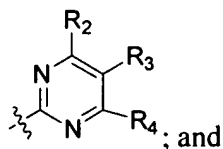
10 R<sub>E</sub> is hydrogen;  
Z is N;  
--- is absent; and  
A is



15 18. The method according to claim 1 wherein  
L is CH<sub>2</sub>;

R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of  
hydrogen and halogen;

20 R<sub>E</sub> is hydrogen;  
R<sub>F</sub> is hydrogen;  
Z is N;  
--- is absent;  
A is



25 R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> are each hydrogen.

19. The method according to claim 18 wherein said compound of formula (I) is 2-{(4-pyrimidin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole.

20. The method according to claim 1 wherein

$R_A$ ,  $R_B$ ,  $R_C$  and  $R_D$  are each independently selected from the group consisting of

5 hydrogen and halogen;

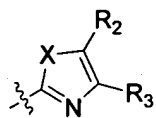
$R_E$  is hydrogen;

Z is N;

--- is absent; and

A is

10



21. The method according to claim 1 wherein

L is  $CH_2$ ;

$R_A$ ,  $R_B$ ,  $R_C$  and  $R_D$  are each independently selected from the group consisting of

15 hydrogen and halogen;

$R_E$  is hydrogen;

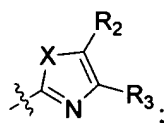
$R_F$  is hydrogen;

Z is N;

--- is absent;

20

A is



$R_2$  and  $R_3$  are each hydrogen; and

X is S.

25 22. The method according to claim 21 wherein said compound of formula (I) is 2-{[4-(1,3-thiazol-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole.

23. The method according to claim 1 wherein



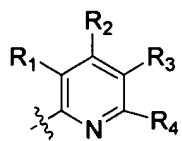
$R_A$ ,  $R_B$ ,  $R_C$  and  $R_D$  are each independently selected from the group consisting of hydrogen and halogen;

$R_E$  is selected from the group consisting of alkoxycarbonyl, alkylcarbonyl, alkyl, arylcarbonyl, cycloalkylcarbonyl, heterocyclecarbonyl and  $(NZ_1Z_2)$ carbonyl;

5         $Z$  is N;

--- is absent; and

$A$  is



10    24.    The method according to claim 1 wherein

$L$  is  $CH_2$ ;

$R_A$ ,  $R_B$ ,  $R_C$  and  $R_D$  are each independently selected from the group consisting of hydrogen and halogen;

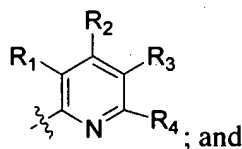
15         $R_E$  is selected from the group consisting of alkoxycarbonyl, alkylcarbonyl,  $(NZ_1Z_2)$ carbonyl and heterocyclecarbonyl wherein the heterocycle portion of said heterocyclecarbonyl is pyrrolidinyl;

$R_F$  is hydrogen;

$Z$  is N;

--- is absent;

20         $A$  is



$R_2$ ,  $R_3$  and  $R_4$  are each hydrogen.

25    25.    The method according to claim 24 wherein said compound of formula (I) is selected from the group consisting of

isobutyl 2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole-1-carboxylate;

2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1-(pyrrolidin-1-ylcarbonyl)-1H-benzimidazole; and

N,N-dimethyl-2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole-1-carboxamide.

26. The method according to claim 1 wherein

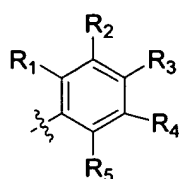
5  $R_A$ ,  $R_B$ ,  $R_C$  and  $R_D$  are each independently selected from the group consisting of hydrogen and halogen;

$R_E$  is hydrogen;

Z is CH;

--- is absent; and

10 A is



27. The method according to claim 1 wherein

L is CH<sub>2</sub>;

15  $R_A$ ,  $R_B$ ,  $R_C$  and  $R_D$  are each independently selected from the group consisting of hydrogen and halogen;

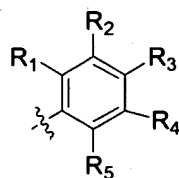
$R_E$  is hydrogen;

$R_F$  is hydrogen;

Z is CH;

20 --- is absent;

A is



; and

$R_2$ ,  $R_3$  and  $R_4$  are each hydrogen.

25 28. The method according to claim 27 wherein said compound of formula (I) is 2-[[4-(2-methoxyphenyl)piperidin-1-yl]methyl]-1H-benzimidazole.

29. The method according to claim 1 wherein

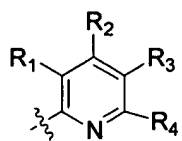
$R_A$ ,  $R_B$ ,  $R_C$  and  $R_D$  are each independently selected from the group consisting of hydrogen and halogen;

$R_E$  is hydrogen;

5  $Z$  is  $CH$ ;

--- is absent; and

$A$  is



10 30. The method according to claim 1 wherein

$L$  is  $CH_2$ ;

$R_A$ ,  $R_B$ ,  $R_C$  and  $R_D$  are each independently selected from the group consisting of hydrogen and halogen;

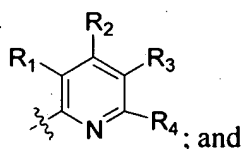
$R_E$  is hydrogen;

15  $R_F$  is hydrogen;

$Z$  is  $CH$ ;

--- is absent;

$A$  is



20  $R_2$ ,  $R_3$  and  $R_4$  are each hydrogen.

31. The method according to claim 30 wherein said compound of formula (I) is 2-[(4-pyridin-2-yl)piperidin-1-yl)methyl]-1H-benzimidazole.

25 32. The method according to claim 1 wherein

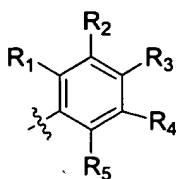
$R_A$ ,  $R_B$ ,  $R_C$  and  $R_D$  are each independently selected from the group consisting of hydrogen and halogen;

$R_E$  is hydrogen;

Z is C;

--- is a bond; and

A is



5

33. The method according to claim 1 wherein

L is CH<sub>2</sub>;

R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of hydrogen and halogen;

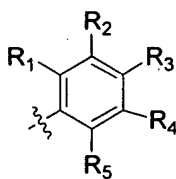
10 R<sub>E</sub> is hydrogen;

R<sub>F</sub> is hydrogen;

Z is C;

--- is a bond;

A is



15

; and

R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> are each hydrogen.

34. The method according to claim 33 wherein said compound of formula (I) is 2-[(4-phenyl-3,6-dihydropyridin-1(2H)-yl)methyl]-1H-benzimidazole.

20

35. A method of treating sexual dysfunction in a mammal comprising administering to said mammal a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof in combination with a pharmaceutically acceptable carrier.

25

36. The method according to claim 35 wherein said compound of formula (I) is selected from the group consisting of

2-{{4-(3-methylpyridin-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole;  
 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]nicotinonitrile;  
 5,7-dibromo-2-{{4-(pyridin-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole;  
 5-fluoro-2-{{4-(pyridin-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole;  
 5 2-{{4-(1,3-thiazol-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole;  
 isobutyl 2-{{4-(pyridin-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole-1-carboxylate;  
 2-{{4-(pyridin-2-yl)piperazin-1-yl}methyl}-1-(pyrrolidin-1-ylcarbonyl)-1H-  
 benzimidazole;  
 N,N-dimethyl-2-{{4-(pyridin-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole-1-  
 10 carboxamide;  
 2-{{4-(4-phenyl)piperazin-1-yl}methyl}-1H-benzimidazole;  
 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]benzonitrile;  
 2-{{4-(2-chlorophenyl)piperazin-1-yl}methyl}-1H-benzimidazole;  
 2-{{4-(2-fluorophenyl)piperazin-1-yl}methyl}-1H-benzimidazole;  
 15 2-{{4-(2-nitrophenyl)piperazin-1-yl}methyl}-1H-benzimidazole;  
 2-{{4-(2-methoxyphenyl)piperazin-1-yl}methyl}-1H-benzimidazole;  
 4-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;  
 2-{{4-[2-(methylthio)phenyl]piperazin-1-yl}methyl}-1H-benzimidazole;  
 2-{{4-(2-ethoxyphenyl)piperazin-1-yl}methyl}-1H-benzimidazole;  
 20 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;  
 2-{{4-(2-methoxyphenyl)piperidin-1-yl}methyl}-1H-benzimidazole;  
 2-{{4-(pyridin-2-yl)piperidin-1-yl}methyl}-1H-benzimidazole;  
 2-{{4-(4-phenyl-3,6-dihydropyridin-1(2H)-yl}methyl}-1H-benzimidazole;  
 2-{{4-(6-methylpyridin-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole;  
 25 2-{{2-methyl-4-pyridin-2-ylpiperazin-1-yl}methyl}-1H-benzimidazole;  
 2-{{[(2S)-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl}-1H-benzimidazole;  
 2-{{[(2R)-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl}-1H-benzimidazole;  
 N-{{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-  
 yl}methanesulfonamide; and  
 30 2-{{4-(3-fluoropyridin-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole.

37. The method according to claim 35 wherein said compound of formula (I) is 2-{(4-pyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole.
38. The method according to claim 35 wherein said compound of formula (I) is 2-{(4-pyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole bis((L)tartrate).
39. The method according to claim 35 wherein said compound of formula (I) is 2-{(4-pyrimidin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole.
40. The method according to claim 35 wherein said compound of formula (I) is 6-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol.
41. A method of treating sexual dysfunction in a mammal comprising administering to said mammal a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof in combination with a phosphodiesterase 5 inhibitor.
42. The method according to claim 41 wherein said compound of formula (I) is selected from the group consisting of
- 2-{[4-(3-methylpyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole;
  - 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]nicotinonitrile;
  - 5,7-dibromo-2-{[4-(4-pyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole;
  - 5-fluoro-2-{[4-(4-pyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole;
  - 2-{[4-(1,3-thiazol-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole;
  - isobutyl 2-{[4-(4-pyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole-1-carboxylate;
  - 2-{[4-(4-pyridin-2-yl)piperazin-1-yl)methyl}-1-(pyrrolidin-1-ylcarbonyl)-1H-benzimidazole;
  - N,N-dimethyl-2-{[4-(4-pyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole-1-carboxamide;
  - 2-{[4-(4-phenyl)piperazin-1-yl)methyl}-1H-benzimidazole;
  - 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]benzonitrile;
  - 2-{[4-(2-chlorophenyl)piperazin-1-yl)methyl}-1H-benzimidazole;

- 2-{{4-(2-fluorophenyl)piperazin-1-yl)methyl}-1H-benzimidazole;  
 2-{{4-(2-nitrophenyl)piperazin-1-yl)methyl}-1H-benzimidazole;  
 2-{{4-(2-methoxyphenyl)piperazin-1-yl)methyl}-1H-benzimidazole;  
 4-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;  
 5 2-({4-[2-(methylthio)phenyl]piperazin-1-yl)methyl}-1H-benzimidazole;  
 2-{{4-(2-ethoxyphenyl)piperazin-1-yl)methyl}-1H-benzimidazole;  
 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;  
 2-{{4-(2-methoxyphenyl)piperidin-1-yl)methyl}-1H-benzimidazole;  
 2-[(4-pyridin-2-yl)piperidin-1-yl)methyl]-1H-benzimidazole;  
 10 2-[(4-phenyl-3,6-dihydropyridin-1(2H)-yl)methyl]-1H-benzimidazole;  
 2-{{4-(6-methylpyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole;  
 2-[(2-methyl-4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;  
 2-{{[(2S)-2-methyl-4-pyridin-2-yl]piperazin-1-yl)methyl}-1H-benzimidazole;  
 2-{{[(2R)-2-methyl-4-pyridin-2-yl]piperazin-1-yl)methyl}-1H-benzimidazole;  
 15 N-{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-  
 yl}methanesulfonamide; and  
 2-{{4-(3-fluoropyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole.
43. The method according to claim 41 wherein said compound of formula (I) is 2-{{4-  
 20 pyridin-2-yl]piperazin-1-yl)methyl}-1H-benzimidazole.
44. The method according to claim 41 wherein said compound of formula (I) is 2-{{4-  
 pyridin-2-yl]piperazin-1-yl)methyl}-1H-benzimidazole bis((L)tartrate).
- 25 45. The method according to claim 41 wherein said compound of formula (I) is 2-{{4-  
 pyrimidin-2-yl]piperazin-1-yl)methyl}-1H-benzimidazole.
46. The method according to claim 41 wherein said compound of formula (I) is 6-[4-(1H-  
 benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol.
- 30 47. A method of treating sexual dysfunction in a mammal comprising administering to  
 said mammal a therapeutically effective amount of a compound of formula (I) or a

pharmaceutically acceptable salt, ester, amide, or prodrug thereof in combination with an adrenergic receptor antagonist.

48. The method according to claim 47 wherein said compound of formula (I) is selected
- 5 from the group consisting of
- 2-{{4-(3-methylpyridin-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole;
  - 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]nicotinonitrile;
  - 5,7-dibromo-2-{{4-(pyridin-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole;
  - 5-fluoro-2-{{4-(pyridin-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole;
  - 10 2-{{4-(1,3-thiazol-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole;
  - isobutyl 2-{{4-(pyridin-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole-1-carboxylate;
  - 2-{{4-(pyridin-2-yl)piperazin-1-yl}methyl}-1-(pyrrolidin-1-ylcarbonyl)-1H-benzimidazole;
  - N,N-dimethyl-2-{{4-(pyridin-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole-1-
  - 15 carboxamide;
  - 2-{{4-(phenyl)piperazin-1-yl}methyl}-1H-benzimidazole;
  - 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]benzonitrile;
  - 2-{{4-(2-chlorophenyl)piperazin-1-yl}methyl}-1H-benzimidazole;
  - 2-{{4-(2-fluorophenyl)piperazin-1-yl}methyl}-1H-benzimidazole;
  - 20 2-{{4-(2-nitrophenyl)piperazin-1-yl}methyl}-1H-benzimidazole;
  - 2-{{4-(2-methoxyphenyl)piperazin-1-yl}methyl}-1H-benzimidazole;
  - 4-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;
  - 2-{{4-[2-(methylthio)phenyl]piperazin-1-yl}methyl}-1H-benzimidazole;
  - 2-{{4-(2-ethoxyphenyl)piperazin-1-yl}methyl}-1H-benzimidazole;
  - 25 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;
  - 2-{{4-(2-methoxyphenyl)piperidin-1-yl}methyl}-1H-benzimidazole;
  - 2-{{4-(pyridin-2-yl)piperidin-1-yl}methyl}-1H-benzimidazole;
  - 2-{{4-(phenyl-3,6-dihydropyridin-1(2H)-yl}methyl}-1H-benzimidazole;
  - 2-{{4-(6-methylpyridin-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole;
  - 30 2-{{2-methyl-4-pyridin-2-ylpiperazin-1-yl}methyl}-1H-benzimidazole;
  - 2-{{[(2S)-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl}-1H-benzimidazole;
  - 2-{{[(2R)-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl}-1H-benzimidazole;



N-{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-yl}methanesulfonamide; and

2-{[4-(3-fluoropyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole.

5 49. The method according to claim 47 wherein said compound of formula (I) is 2-{(4-pyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole.

50. The method according to claim 47 wherein said compound of formula (I) is 2-{(4-pyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole bis((L)tartrate).

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51. The method according to claim 47 wherein said compound of formula (I) is 2-{(4-pyrimidin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole.

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52. The method according to claim 47 wherein said compound of formula (I) is 6-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol.

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53. A method of treating sexual dysfunction in a mammal comprising administering to said mammal a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof in combination with a dopamine agonist.

25

54. The method according to claim 53 wherein said compound of formula (I) is selected from the group consisting of

2-{[4-(3-methylpyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole;

2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]nicotinonitrile;

5,7-dibromo-2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;

5-fluoro-2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;

2-{[4-(1,3-thiazol-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole;

isobutyl 2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole-1-carboxylate;

30

2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1-(pyrrolidin-1-ylcarbonyl)-1H-benzimidazole;

N,N-dimethyl-2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole-1-carboxamide;

- 2-[(4-phenyl)piperazin-1-yl)methyl]-1H-benzimidazole;  
2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]benzonitrile;  
5 2-{[4-(2-chlorophenyl)piperazin-1-yl)methyl]-1H-benzimidazole;  
2-{[4-(2-fluorophenyl)piperazin-1-yl)methyl]-1H-benzimidazole;  
2-{[4-(2-nitrophenyl)piperazin-1-yl)methyl]-1H-benzimidazole;  
2-{[4-(2-methoxyphenyl)piperazin-1-yl)methyl]-1H-benzimidazole;  
4-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;  
10 2-([4-[2-(methylthio)phenyl]piperazin-1-yl)methyl]-1H-benzimidazole;  
2-{[4-(2-ethoxyphenyl)piperazin-1-yl)methyl]-1H-benzimidazole;  
2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;  
2-{[4-(2-methoxyphenyl)piperidin-1-yl)methyl]-1H-benzimidazole;  
2-[(4-pyridin-2-yl)piperidin-1-yl)methyl]-1H-benzimidazole;  
15 2-[(4-phenyl-3,6-dihydropyridin-1(2H)-yl)methyl]-1H-benzimidazole;  
2-{[4-(6-methylpyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;  
2-[(2-methyl-4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;  
2-{[(2S)-2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;  
2-{[(2R)-2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;  
20 N-{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-  
yl}methanesulfonamide; and  
2-{[4-(3-fluoropyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole.

55. The method according to claim 53 wherein said compound of formula (I) is 2-[(4-  
25 pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole.

56. The method according to claim 53 wherein said compound of formula (I) is 2-{(4-  
pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole bis((L)tartrate).

30 57. The method according to claim 53 wherein said compound of formula (I) is 2-{(4-  
pyrimidin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole.

58. The method according to claim 53 wherein said compound of formula (I) is 6-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol.
59. A method of treating male erectile dysfunction in a male human comprising  
 5 administering to said male human in need of such treatment a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof.
60. The method according to claim 59 wherein said compound of formula (I) is selected  
 10 from the group consisting of
- 2-{[4-(3-methylpyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole;
  - 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]nicotinonitrile;
  - 5,7-dibromo-2-{[4-(pyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole;
  - 5-fluoro-2-{[4-(pyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole;
  - 15 2-{[4-(1,3-thiazol-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole;
  - isobutyl 2-{[4-(pyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole-1-carboxylate;
  - 2-{[4-(pyridin-2-yl)piperazin-1-yl]methyl}-1-(pyrrolidin-1-ylcarbonyl)-1H-benzimidazole;
  - N,N-dimethyl-2-{[4-(pyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole-1-
  - 20 carboxamide;
  - 2-{[4-(phenyl)piperazin-1-yl]methyl}-1H-benzimidazole;
  - 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]benzonitrile;
  - 2-{[4-(2-chlorophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;
  - 2-{[4-(2-fluorophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;
  - 25 2-{[4-(2-nitrophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;
  - 2-{[4-(2-methoxyphenyl)piperazin-1-yl]methyl}-1H-benzimidazole;
  - 4-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;
  - 2-{[4-[2-(methylthio)phenyl]piperazin-1-yl]methyl}-1H-benzimidazole;
  - 2-{[4-(2-ethoxyphenyl)piperazin-1-yl]methyl}-1H-benzimidazole;
  - 30 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;
  - 2-{[4-(2-methoxyphenyl)piperidin-1-yl]methyl}-1H-benzimidazole;
  - 2-[4-(pyridin-2-yl)piperidin-1-yl]methyl}-1H-benzimidazole;

- 2-[(4-phenyl-3,6-dihydropyridin-1(2H)-yl)methyl]-1H-benzimidazole;  
 2-[[4-(6-methylpyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole;  
 2-[(2-methyl-4-pyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole;  
 2-[[2S]-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl]-1H-benzimidazole;  
 5 2-[[2R]-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl]-1H-benzimidazole;  
 N-{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-yl}methanesulfonamide; and  
 2-[[4-(3-fluoropyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole.
- 10 61. The method according to claim 59 wherein said compound of formula (I) is 2-[(4-pyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole or a pharmaceutically acceptable salt or prodrug thereof.
62. The method according to claim 59 wherein said compound of formula (I) is 2-[(4-pyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole bis((L)tartrate).
- 15 63. The method according to claim 59 wherein said compound of formula (I) is 2-[(4-pyrimidin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole or a pharmaceutically acceptable salt or prodrug thereof.
- 20 64. The method according to claim 59 wherein said compound of formula (I) is 6-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol or a pharmaceutically acceptable salt or prodrug thereof.
- 25 65. A method of treating female sexual dysfunction in a female human comprising administering to said female human in need of such treatment a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof.
- 30 66. The method according to claim 65 wherein said compound of formula (I) is selected from the group consisting of  
 2-[[4-(3-methylpyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole;

- 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]nicotinonitrile;  
 5,7-dibromo-2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;  
 5-fluoro-2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;  
 2-{[4-(1,3-thiazol-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;  
 5 isobutyl 2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole-1-carboxylate;  
 2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1-(pyrrolidin-1-ylcarbonyl)-1H-benzimidazole;  
 N,N-dimethyl-2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole-1-carboxamide;  
 10 2-[(4-phenyl)piperazin-1-yl)methyl]-1H-benzimidazole;  
 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]benzonitrile;  
 2-{[4-(2-chlorophenyl)piperazin-1-yl)methyl]-1H-benzimidazole;  
 2-{[4-(2-fluorophenyl)piperazin-1-yl)methyl]-1H-benzimidazole;  
 2-{[4-(2-nitrophenyl)piperazin-1-yl)methyl]-1H-benzimidazole;  
 15 2-{[4-(2-methoxyphenyl)piperazin-1-yl)methyl]-1H-benzimidazole;  
 4-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;  
 2-({4-[2-(methylthio)phenyl]piperazin-1-yl)methyl)-1H-benzimidazole;  
 2-{[4-(2-ethoxyphenyl)piperazin-1-yl)methyl]-1H-benzimidazole;  
 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;  
 20 2-{[4-(2-methoxyphenyl)piperidin-1-yl)methyl]-1H-benzimidazole;  
 2-[(4-pyridin-2-yl)piperidin-1-yl)methyl]-1H-benzimidazole;  
 2-[(4-phenyl-3,6-dihydropyridin-1(2H)-yl)methyl]-1H-benzimidazole;  
 2-{[4-(6-methylpyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;  
 2-[(2-methyl-4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;  
 25 2-{[(2S)-2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;  
 2-{[(2R)-2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;  
 N-{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-yl}methanesulfonamide; and  
 2-{[4-(3-fluoropyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole.

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67. The method according to claim 65 wherein said compound of formula (I) is 2-{(4-pyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole or a pharmaceutically acceptable salt or prodrug thereof.
- 5 68. The method according to claim 65 wherein said compound of formula (I) is 2-{(4-pyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole bis((L)tartrate).
69. The method according to claim 65 wherein said compound of formula (I) is 2-{(4-pyrimidin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole or a pharmaceutically acceptable  
10 salt or prodrug thereof.
70. The method according to claim 65 wherein said compound of formula (I) is 6-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol or a pharmaceutically acceptable salt or  
15 prodrug thereof.
71. A method of treating a disorder selected from the group consisting of attention deficit hyperactivity disorder, Alzheimer's disease, drug abuse, Parkinson's disease, schizophrenia, anxiety, mood disorders and depression in a mammal comprising administering to said mammal in need of such treatment a therapeutically effective amount of a compound of  
20 formula (I) or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof.
72. The method according to claim 71 wherein said compound of formula (I) is selected from the group consisting of
- 25 2-{[4-(3-methylpyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;  
2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]nicotinonitrile;  
5,7-dibromo-2-{(4-pyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole;  
5-fluoro-2-{(4-pyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole;  
2-{[4-(1,3-thiazol-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;  
isobutyl 2-{(4-pyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole-1-carboxylate;  
30 2-{(4-pyridin-2-yl)piperazin-1-yl)methyl}-1-(pyrrolidin-1-ylcarbonyl)-1H-benzimidazole;

N,N-dimethyl-2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole-1-carboxamide;

2-[(4-phenyl)piperazin-1-yl)methyl]-1H-benzimidazole;

2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]benzonitrile;

5 2-{[4-(2-chlorophenyl)piperazin-1-yl)methyl]-1H-benzimidazole;

2-{[4-(2-fluorophenyl)piperazin-1-yl)methyl]-1H-benzimidazole;

2-{[4-(2-nitrophenyl)piperazin-1-yl)methyl]-1H-benzimidazole;

2-{[4-(2-methoxyphenyl)piperazin-1-yl)methyl]-1H-benzimidazole;

4-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;

10 2-({4-[2-(methylthio)phenyl]piperazin-1-yl)methyl)-1H-benzimidazole;

2-{[4-(2-ethoxyphenyl)piperazin-1-yl)methyl]-1H-benzimidazole;

2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;

2-{[4-(6-methylpyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;

2-[(2-methyl-4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;

15 2-{[(2S)-2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;

2-{[(2R)-2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;

N-{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-yl}methanesulfonamide; and

2-{[4-(3-fluoropyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole.

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73. The method according to claim 71 wherein said compound of formula (I) is selected from the group consisting of

2-{[4-(2-methoxyphenyl)piperidin-1-yl)methyl]-1H-benzimidazole;

2-[4-(4-pyridin-2-yl)piperidin-1-yl)methyl]-1H-benzimidazole; and

25 2-[4-(4-phenyl-3,6-dihydropyridin-1(2H)-yl)methyl]-1H-benzimidazole.

74. The method according to claim 71 wherein said compound of formula (I) is 2-{(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole.

30 75. The method according to claim 71 wherein said compound of formula (I) is 2-{(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole bis((L)tartrate).

76. The method according to claim 71 wherein said compound of formula (I) is 2-[(4-pyrimidin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole.
77. The method according to claim 71 wherein said compound of formula (I) is 6-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol.
78. A method of treating cardiovascular disorders in a mammal comprising administering to said mammal a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof.
79. The method according to claim 78 wherein said compound of formula (I) is selected from the group consisting of
- 2-[(4-(3-methylpyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;
  - 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]nicotinonitrile;
  - 5,7-dibromo-2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;
  - 5-fluoro-2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;
  - 2-[(4-(1,3-thiazol-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;
  - isobutyl 2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole-1-carboxylate;
  - 2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1-(pyrrolidin-1-ylcarbonyl)-1H-benzimidazole;
  - N,N-dimethyl-2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole-1-carboxamide;
  - 2-[(4-phenyl)piperazin-1-yl)methyl]-1H-benzimidazole;
  - 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]benzonitrile;
  - 2-[(4-(2-chlorophenyl)piperazin-1-yl)methyl]-1H-benzimidazole;
  - 2-[(4-(2-fluorophenyl)piperazin-1-yl)methyl]-1H-benzimidazole;
  - 2-[(4-(2-nitrophenyl)piperazin-1-yl)methyl]-1H-benzimidazole;
  - 2-[(4-(2-methoxyphenyl)piperazin-1-yl)methyl]-1H-benzimidazole;
  - 4-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;
  - 2-[(4-[2-(methylthio)phenyl]piperazin-1-yl)methyl]-1H-benzimidazole;
  - 2-[(4-(2-ethoxyphenyl)piperazin-1-yl)methyl]-1H-benzimidazole;
  - 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;



- 2-{{4-(2-methoxyphenyl)piperidin-1-yl)methyl}-1H-benzimidazole;  
2-[(4-pyridin-2-yl)piperidin-1-yl)methyl]-1H-benzimidazole;  
2-[(4-phenyl-3,6-dihydropyridin-1(2H)-yl)methyl]-1H-benzimidazole;  
2-{{4-(6-methylpyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole;  
5 2-[(2-methyl-4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;  
2-{{[(2S)-2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl}-1H-benzimidazole;  
2-{{[(2R)-2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl}-1H-benzimidazole;  
N-{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-  
yl}methanesulfonamide; and  
10 2-{{4-(3-fluoropyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole.

80. The method according to claim 78 wherein said compound of formula (I) is 2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole.

- 15 81. The method according to claim 78 wherein said compound of formula (I) is 2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole bis((L)tartrate).

82. The method according to claim 78 wherein said compound of formula (I) is 2-[(4-pyrimidin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole.

20

83. The method according to claim 78 wherein said compound of formula (I) is 6-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol.

84. A method of treating inflammatory disorders in a mammal comprising administering  
25 to said mammal a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof.

85. The method according to claim 84 wherein said compound of formula (I) is selected from the group consisting of

- 30 2-{{4-(3-methylpyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole;  
2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]nicotinonitrile;  
5,7-dibromo-2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;

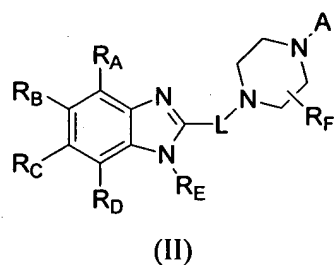
- 5-fluoro-2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;  
 2-[[4-(1,3-thiazol-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole;  
 isobutyl 2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole-1-carboxylate;  
 2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1-(pyrrolidin-1-ylcarbonyl)-1H-  
 5 benzimidazole;  
 N,N-dimethyl-2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole-1-  
 carboxamide;  
 2-[(4-phenyl)piperazin-1-yl)methyl]-1H-benzimidazole;  
 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]benzonitrile;  
 10 2-[[4-(2-chlorophenyl)piperazin-1-yl]methyl]-1H-benzimidazole;  
 2-[[4-(2-fluorophenyl)piperazin-1-yl]methyl]-1H-benzimidazole;  
 2-[[4-(2-nitrophenyl)piperazin-1-yl]methyl]-1H-benzimidazole;  
 2-[[4-(2-methoxyphenyl)piperazin-1-yl]methyl]-1H-benzimidazole;  
 4-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;  
 15 2-([4-[2-(methylthio)phenyl]piperazin-1-yl]methyl)-1H-benzimidazole;  
 2-[[4-(2-ethoxyphenyl)piperazin-1-yl]methyl]-1H-benzimidazole;  
 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;  
 2-[[4-(2-methoxyphenyl)piperidin-1-yl]methyl]-1H-benzimidazole;  
 2-[(4-pyridin-2-yl)piperidin-1-yl)methyl]-1H-benzimidazole;  
 20 2-[(4-phenyl-3,6-dihydropyridin-1(2H)-yl)methyl]-1H-benzimidazole;  
 2-[[4-(6-methylpyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole;  
 2-[(2-methyl-4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;  
 2-[[2S)-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl]-1H-benzimidazole;  
 2-[[2R)-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl]-1H-benzimidazole;  
 25 N-{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-  
 yl}methanesulfonamide; and  
 2-[[4-(3-fluoropyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole.
86. The method according to claim 84 wherein said compound of formula (I) is 2-[(4-  
 30 pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole.

87. The method according to claim 84 wherein said compound of formula (I) is 2-{(4-pyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole bis((L)tartrate).

88. The method according to claim 84 wherein said compound of formula (I) is 2-{(4-pyrimidin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole.

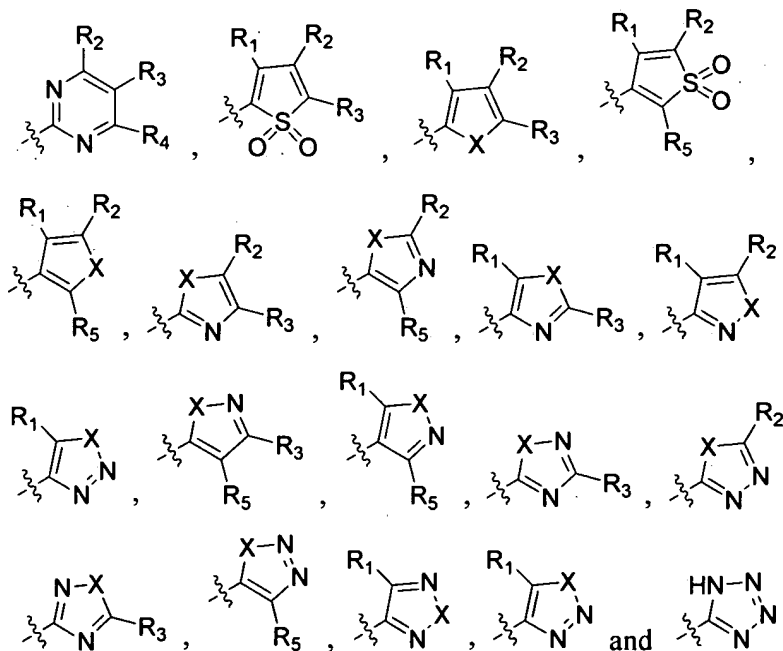
89. The method according to claim 84 wherein said compound of formula (I) is 6-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol.

90. A compound of formula (II)



or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof, wherein

A is selected from the group consisting of



X is selected from the group consisting of NH, O and S;

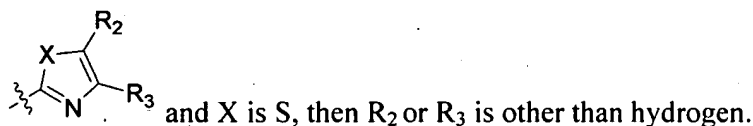
L is selected from the group consisting of CH<sub>2</sub>, CH<sub>2</sub>CH<sub>2</sub>, CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub> and CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>;

R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> are each independently selected from the group consisting of hydrogen, alkoxy, alkenyl, alkyl, alkylsulfinyl, alkylsulfonyl, alkylthio, alkynyl, alkoxy carbonyl, alkyl carbonyl, alkyl carbonyloxy, carboxy, cyano, formyl, halogen, haloalkoxy, haloalkyl, hydroxy, hydroxyalkyl, mercapto, nitro, -NZ<sub>1</sub>Z<sub>2</sub> and (NZ<sub>1</sub>Z<sub>2</sub>)carbonyl wherein Z<sub>1</sub> and Z<sub>2</sub> are each independently selected from the group consisting of hydrogen, alkyl, alkyl carbonyl, alkylsulfonyl and formyl;

R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of hydrogen, alkoxy, alkenyl, alkyl, alkylsulfinyl, alkylsulfonyl, alkylthio, alkynyl, alkoxy carbonyl, alkyl carbonyl, alkyl carbonyloxy, carboxy, cyano, formyl, halogen, haloalkoxy, haloalkyl, hydroxy, hydroxyalkyl, mercapto, nitro, -NZ<sub>1</sub>Z<sub>2</sub> and (NZ<sub>1</sub>Z<sub>2</sub>)carbonyl;

R<sub>E</sub> is selected from the group consisting of hydrogen, alkoxy carbonyl, alkyl, alkyl carbonyl, aryl carbonyl, cycloalkyl carbonyl, heterocycle carbonyl and (NZ<sub>1</sub>Z<sub>2</sub>)carbonyl; and

R<sub>F</sub> is selected from the group consisting of hydrogen and alkyl; provided that when A is

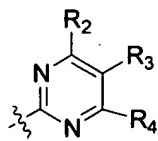


91. A compound according to claim 90 wherein

R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of hydrogen and halogen;

R<sub>E</sub> is hydrogen; and

A is



92. A compound according to claim 90 wherein

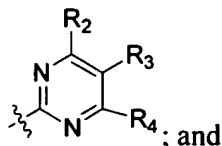
R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of hydrogen and halogen;

R<sub>E</sub> is hydrogen;

R<sub>F</sub> is hydrogen;

L is CH<sub>2</sub>;

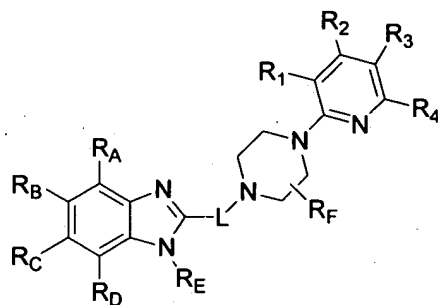
A is



R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> are each hydrogen.

93. A compound according to claim 92 that is 2-[(4-pyrimidin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole.

10 94. A compound of formula (III)



(III)

or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof, wherein

15 R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> are each independently selected from the group consisting of hydrogen, alkylsulfinyl, alkylsulfonyl, alkylsulfonylamino, alkylthio and hydroxy;

L is selected from the group consisting of CH<sub>2</sub>, CH<sub>2</sub>CH<sub>2</sub>, CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub> and CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>;

20 R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of hydrogen, alkoxy, alkenyl, alkyl, alkylsulfinyl, alkylsulfonyl, alkylthio, alkynyl, alkoxycarbonyl, alkylcarbonyl, alkylcarbonyloxy, carboxy, cyano, formyl, halogen, haloalkoxy, haloalkyl, hydroxy, hydroxyalkyl, mercapto, nitro, -NZ<sub>1</sub>Z<sub>2</sub> and (NZ<sub>1</sub>Z<sub>2</sub>)carbonyl wherein Z<sub>1</sub> and Z<sub>2</sub> are each independently selected from the group consisting of hydrogen, alkyl, alkylcarbonyl, alkylsulfonyl and formyl;

R<sub>E</sub> is selected from the group consisting of hydrogen, alkoxycarbonyl, alkyl, alkylcarbonyl, arylcarbonyl, cycloalkylcarbonyl, heterocyclecarbonyl and (NZ<sub>1</sub>Z<sub>2</sub>)carbonyl; and

R<sub>F</sub> is selected from the group consisting of hydrogen and alkyl;  
5 provided that when R<sub>F</sub> is hydrogen, than at least one of R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, or R<sub>4</sub> is other than hydrogen;

95. A compound according to claim 94 wherein  
R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> are each independently selected from the group consisting of  
10 hydrogen and hydroxy;  
R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of hydrogen and halogen; and  
R<sub>E</sub> is hydrogen.

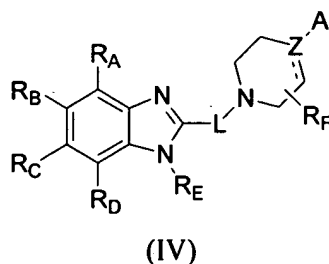
15 96. A compound according to claim 94 wherein  
R<sub>1</sub>, R<sub>2</sub> and R<sub>4</sub> are each hydrogen;  
R<sub>3</sub> is hydroxy;  
L is CH<sub>2</sub>;  
R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of  
20 hydrogen and halogen;  
R<sub>E</sub> is hydrogen; and  
R<sub>F</sub> is hydrogen.

97. A compound according to claim 96 that is 6-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol.  
25

98. A compound according to claim 94 wherein  
R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> are each hydrogen;  
L is CH<sub>2</sub>;  
30 R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of hydrogen and halogen;  
R<sub>E</sub> is hydrogen; and

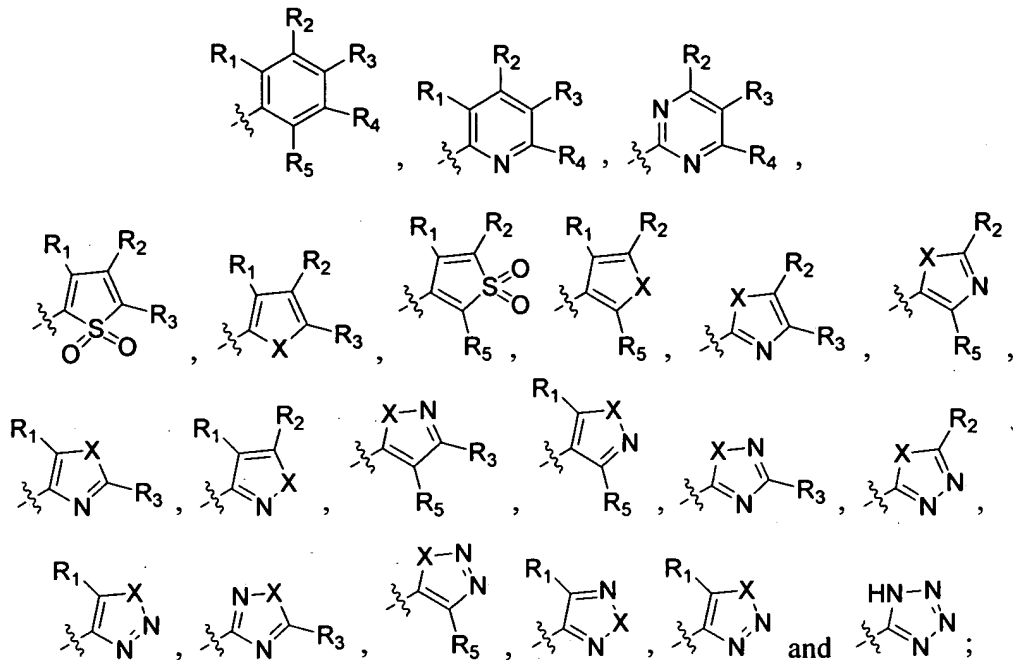
R<sub>F</sub> is alkyl.

99. A compound according to claim 98 selected from the group consisting of  
2-[(2-methyl-4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;  
5 2-{[(2S)-2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl}-1H-benzimidazole; and  
2-{[(2R)-2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl}-1H-benzimidazole.
100. A compound according to claim 94 wherein  
R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> are each independently selected from the group consisting of  
10 hydrogen and alkylsulfonylamino;  
R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of  
hydrogen and halogen; and  
R<sub>E</sub> is hydrogen.
- 15 101. A compound according to claim 94 wherein  
R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> are each hydrogen;  
R<sub>1</sub> is alkylsulfonylamino;  
L is CH<sub>2</sub>;  
R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of  
20 hydrogen and halogen;  
R<sub>E</sub> is hydrogen; and  
R<sub>F</sub> is hydrogen.
102. A compound according to claim 101 that is N-{2-[4-(1H-benzimidazol-2-  
25 ylmethyl)piperazin-1-yl]pyridin-3-yl}methanesulfonamide.
103. A compound of formula (IV)



or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof, wherein

A is selected from the group consisting of



X is selected from the group consisting of NH, O and S;

- 5 L is selected from the group consisting of CH<sub>2</sub> CH<sub>2</sub>CH<sub>2</sub>, CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub> and CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>;

- R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> are each independently selected from the group consisting of hydrogen, alkoxy, alkenyl, alkyl, alkylsulfinyl, alkylsulfonyl, alkylthio, alkynyl, alkoxy carbonyl, alkyl carbonyl, alkyl carbonyloxy, carboxy, cyano, formyl, halogen, haloalkoxy, haloalkyl, hydroxy, hydroxyalkyl, mercapto, nitro, -NZ<sub>1</sub>Z<sub>2</sub> and (NZ<sub>1</sub>Z<sub>2</sub>)carbonyl  
10 wherein Z<sub>1</sub> and Z<sub>2</sub> are each independently selected from the group consisting of hydrogen, alkyl, alkyl carbonyl, alkylsulfonyl and formyl;

- R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of hydrogen, alkoxy, alkenyl, alkyl, alkylsulfinyl, alkylsulfonyl, alkylthio, alkynyl, alkoxy carbonyl, alkyl carbonyl, alkyl carbonyloxy, carboxy, cyano, formyl, halogen, haloalkoxy, haloalkyl, hydroxy, hydroxyalkyl, mercapto, nitro, -NZ<sub>1</sub>Z<sub>2</sub> and (NZ<sub>1</sub>Z<sub>2</sub>)carbonyl  
15 wherein Z<sub>1</sub> and Z<sub>2</sub> are each independently selected from the group consisting of hydrogen, alkyl, alkyl carbonyl, alkylsulfonyl and formyl;

- R<sub>E</sub> is selected from the group consisting of hydrogen, alkoxy carbonyl, alkyl, alkyl carbonyl, aryl carbonyl, cycloalkyl carbonyl, heterocycle carbonyl and (NZ<sub>1</sub>Z<sub>2</sub>)carbonyl;  
20



$R_F$  is selected from the group consisting of hydrogen and alkyl;

Z is selected from the group consisting of C and CH; and

--- is a bond when Z is C and --- is absent when Z is CH.

5 104. A compound according to claim 103 wherein

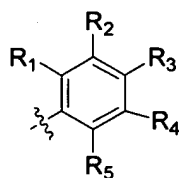
$R_A$ ,  $R_B$ ,  $R_C$  and  $R_D$  are each independently selected from the group consisting of hydrogen and halogen;

$R_E$  is hydrogen;

Z is CH;

10 --- is absent when Z is CH; and

A is



105. A compound according to claim 103 wherein

15  $R_A$ ,  $R_B$ ,  $R_C$  and  $R_D$  are each independently selected from the group consisting of hydrogen and halogen;

$R_E$  is hydrogen;

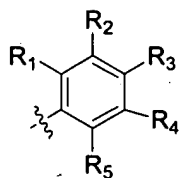
$R_F$  is hydrogen;

L is  $CH_2$ ;

20 Z is CH;

--- is absent when Z is CH;

A is



; and

$R_2$ ,  $R_3$  and  $R_4$  are each hydrogen.

25

106. A compound according to claim 105 that is 2-{{[4-(2-methoxyphenyl)piperidin-1-yl]methyl}-1H-benzimidazole.

107. A compound according to claim 103 wherein

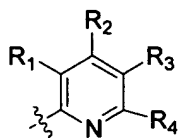
$R_A$ ,  $R_B$ ,  $R_C$  and  $R_D$  are each independently selected from the group consisting of hydrogen and halogen;

5  $R_E$  is hydrogen;

$Z$  is  $CH$ ;

--- is absent when  $Z$  is  $CH$ ; and

$A$  is



10

108. A compound according to claim 103 wherein

$R_A$ ,  $R_B$ ,  $R_C$  and  $R_D$  are each independently selected from the group consisting of hydrogen and halogen;

$R_E$  is hydrogen;

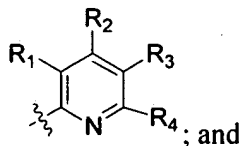
15  $R_F$  is hydrogen;

$L$  is  $CH_2$ ;

$Z$  is  $CH$ ;

--- is absent when  $Z$  is  $CH$ ;

$A$  is



20

; and

$R_2$ ,  $R_3$  and  $R_4$  are each hydrogen.

109. A compound according to claim 108 that is 2-[(4-pyridin-2-yl)piperidin-1-yl)methyl]-1H-benzimidazole.

25

110. A compound according to claim 103 wherein

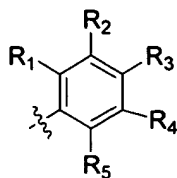
$R_A$ ,  $R_B$ ,  $R_C$  and  $R_D$  are each independently selected from the group consisting of hydrogen and halogen;

R<sub>E</sub> is hydrogen;

Z is C;

--- is a bond; and

A is



5

111. A compound according to claim 103 wherein

R<sub>A</sub>, R<sub>B</sub>, R<sub>C</sub> and R<sub>D</sub> are each independently selected from the group consisting of hydrogen and halogen;

10 R<sub>E</sub> is hydrogen;

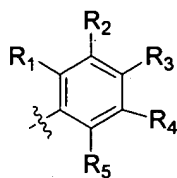
R<sub>F</sub> is hydrogen;

L is CH<sub>2</sub>;

Z is C;

--- is a bond;

15 A is



; and

R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> are each hydrogen.

112. A compound according to claim 111 that is 2-[(4-phenyl-3,6-dihydropyridin-1(2H)-  
20 yl)methyl]-1H-benzimidazole.